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China Report

AGRICULTURE

No. 220

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CHINA REPORT

AGRICULTURE

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I. GENERAL INFORMATION

BRIEFS

NORTHERN CHINA RICE--North China has begun to plant a new hybrid rice which yields 750 to 1,100 kilogrammes more a hectare than other varieties, according to agronomist Yang Zhenyu, who developed the new strain. More than 66,000 hectares of farmland have been planted with the hybrid rice "Liyou 57." The new variety is the first Geng type hybrid rice adapted to the weather of northern China. Geng type rice has a longer growing season and is more glutinous than Xian type which is grown in southern China. In Dawa County, Liaoning Province, where 16,000 hectares of farmland were planted with "Liyou 57" the output averaged 8,250 kilogrammes a hectare last year. On small experimental plots, the yield was as high as 12,000 kilogrammes a hectare. [Excerpt] [Beijing CHINA DAILY in English 3 Aug 82 p 3]

PRC PRODUCTION BRIGADES--The number of production brigades who have prospered this year has nearly doubled. 10,943 brigades fall into this category, up from 5,569 last year. These brigades have an average annual per capita income of 300 yuan. This means 900 yuan yearly for a family of three. They comprise 1.52 percent of the total number of brigades in the country and are mostly located in Shanghai, Beijing and Guangdong Province. Beijing inner Mongolia autonomous region, Jilin, Jiangsu, Guangdong and Anhui had the highest number of brigades who prospered. [Text] [Beijing CHINA DAILY in English 3 Aug 82 p 3]

SUGAR PRODUCTION--Beijing, 25 Jun (XINHUA)--China produced 3.4 million tons of sugar in the 1981-1982 refining season which has just ended, according to the Ministry of Light Industry. This is 13.3 percent up on the previous refining season which was a record itself. Sugar output has registered an 89 percent increase since 1977. Cane sugar production went up 16.1 percent this year with an output of 2.74 million tons while beet sugar increased 3 percent. Support to peasants growing sugar cane in the form of higher purchasing prices and provision of grain were the main reasons for the increase. Chinese made presses capable of refining 400,000 tons of sugar were installed this year, mainly in existing refineries. [Text] [Beijing XINHUA in English 1214 GMT 25 Jun 82 OW]

CSO: 4020/154

ANHUI

SURPLUS GRAIN STOCKS POSE PROBLEM FOR CHUXIAN PREFECTURE

Beijing RENMIN RIBAO in Chinese 13 May 82 p 1

[Reporters' letter: "Solve as Fast as Possible Chuxian Prefecture's Problem of Transferring Grain and Rape to Other Localities"]

[Text] In the middle and latter parts of Arpil, just in the season when rape was blossoming and wheat was earing, we reporters paid a visit to Dingyuan, Fengyang, and Jiashan counties in Chuxian Prefecture. Wherever we went, the cadres and masses in succession reported that "it is hard to sell grain," and many times we saw masses in long lines at grain supply centers. Because some granaries were already full to the brim, there was no choice but to build open-air depots; because in some places there was no space to pile up grain, there was no choice but to stop purchasing grain.

Over the past 2 years, Chuxian Prefecture has changed its longstanding passive situation of "depending for food on grain resold by the state to the place of production." On the foundation of the peasants' standard of living rising year after year, the amount of grain and rape sold to the state has increased year after year. According to statistics compiled by the prefecture's grain bureau, by 20 April more than 1.2 billion jin of grain had been put into storage throughout the prefecture, an increase of close to 1.5 times above the prefecture's grain state-purchase and state-excess purchase quotas and an increase of over 500 million jin in the total amount of grain in storage as compared with that of the previous year period; over 200 million jin of oil-bearing crops are already in storage, over 7 times above the state purchase quotas and over 100 million jin above that of the previous year period. For the period from January through March of this year, the amount of grain in storage throughout the prefecture was over 110 million jin, over 3 times above that of the corresponding period of last year. After the beginning of April, the daily amount being put in storage was still 1 million to 1.5 million jin.

Why, in this time of temporary shortage, has there appeared in Chuxian Prefecture a situation in which too much grain has been sold. According to our understanding, this is mainly for the following two reasons: The first reason is that last year the scale of the growth in output of grain and rape was large and the masses have a lot of grain in hand. At present, the grain stored up in commune member homes is generally enough for the families to eat until autumn grain comes in this year, and many families would not be able to finish eating the stored grain until next year's summer harvest. The other reason is that a lot of summer-ripening crops were planted and are growing well; the preliminary estimate is that there will be about a 20 percent increase in output over that of last year. Seeing the large batch of new grain that will come into their hands, the peasants one after another demand even more to sell the surplus grain.

Currently, the outstanding problem existing in grain supply centers in Chuxian Prefecture is: their storage capacity is inadequate and the transfer of grain and rape to other localities is not done in a timely fashion, and this seriously affects purchasing work. According to statistics, last year the prefecture's 170 grain supply centers set up a total of 1,528 open-air depots, and there are now over 100 million jin of grain in open-air depots. Therefore, the local leaders at every level and the comrades engaged in grain work urgently hope that the departments concerned will quickly transfer the existing grain stocks to other localities, in order to solve the current problem of the masses' "grain-selling difficulty" and to make good preparations for purchases of summer grain and rape.

9727
CSO: 4007/241

BRIEFS

LIXIN COUNTY WHEAT HARVEST--Anhui's Lixin County has reaped a bumper harvest from its 1.116 million mu of wheat this year, with its per-mu yield reaching as high as 323 jin. The county has reaped 360 million jin of wheat this year, marking an increase of 13.2 percent compared with 1981. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 18 Jul 82 OW]

ZONGYANG COUNTY EARLY RICE--By 25 July, Zongyang County, Anhui, had harvested 170,000 mu of early rice and planted over 100,000 mu of late rice. [OW100623 Hefei Anhui Provincial Service in Mandarin 1100 GMT 1 Aug 82]

LUJIANG COUNTY RICE HARVEST--Lujiang County in Anhui has reaped a bumper harvest from its 650,000 mu of early rice fields this year, with both total and per-mu yields hitting an all-time high. The average per-mu yield has reached 730 jin while the total output is 10 percent more than last year. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 9 Aug 82 OW]

CSO: 4007/526

PROSPECT OF GOOD WHEAT HARVEST IN SUBURBS SEEN

Beijing BEIJING RIBAO in Chinese 24 Apr 82 p 1

[Article: "Wheat Growing Well on 2.5 Million Mu in Beijing Suburbs"]

[Text] After a brave fight waged jointly by the great number of cadres and commune members under the severe conditions of sustained dry weather and days without water, the wheat on 2.55 million mu in this city's suburbs is growing better than expected. If only the suburbs continue to economize in using water, rationally irrigate, and scientifically manage the fields, there is a great hope that they will achieve a good harvest of summer grain.

Last autumn, the people in the suburbs firmly implemented the policy of making planned economy primary and overfulfilled the state's wheat planting plan on a total acreage of over 2.553 million mu. However, the dry weather and lack of water, the insufficient soil moisture, coupled with a fairly early drop in temperature, caused the wheat on the greater part of the fields to grow weakly with little tillering and an insufficient total number of stalks before winter set in. According to statistics compiled at that time, third-grade seedlings accounted for 40 percent of the wheat in the suburbs.

Under extremely disadvantageous conditions, the communes and production teams in the suburbs, in line with the ideas of agricultural experts and scientific and technical personnel, got a tight grip on wheatfield management centered on resisting drought and protecting seedlings. After spring began this year, under conditions in which electric power was insufficient, the great number of communes members made no distinction between day and night and turned on the irrigation machinery during the power-supply periods. By the first part of April, over 90 percent of the wheatfields in the suburbs had been irrigated once and had received one application of fertilizer. In addition, the temperatures this spring have tended to be high and steady, and the frequent cold snap in spring of previous years has not occurred, which is even more advantageous for the growth of the wheat, and the greening and jointing of the wheat seedlings has on average occurred about 5 to 7 days earlier than in normal harvest years. Because the spring tillering stage is long, the insufficiency in the total number of stalks before winter set in has been made up, and the highest total number of stalks this spring is greater than in the corresponding period of last year. According to statistics, there are less than 30 percent third-category seedlings. This spring barley, planted on 350,000 mu, is also growing better than in the recent several years.

The municipal department concerned has pointed out: From now on water will be in even shorter supply, and a second watering of several tens of thousands of mu of wheat in the suburbs cannot be quaranteed. Therefore, it is extremely important to economize on water use and to irrigate rationally. Communes and production teams that have not yet put into practice the motor-pumped well responsibility system must quickly do so. The work of maintaining old wells and refitting deep-well pumps must continue to be done intensively. Owing to the fact that the wheat's growing stage is ahead of time, water and fertilizer must be applied early in the jointing stage. Although there are many difficulties, if management is done well in the middle and final stages a good harvest of wheat can be obtained.

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CSO: 4007/241

PEASANTS PAPER SUPPORTS IDEOLOGICAL EDUCATION

HK240528 Beijing ZHONGGUO NONGMIN BAO in Chinese 1 Jul 82 p 1

[Contributing commentator's article: "Arm the Peasant Party Members With Communist Ideology"--slantlines denote boldface]

[Text] The central force leading our cause forward is the Chinese Communist Party. While we are warmly commemorating the 61th anniversary of the founding of the CCP, still fresh in our memory is what Comrade Hu Yaobang said 1 year ago at the meeting in commemoration of the 60th anniversary of the founding of CCP: "In the new historical period, faced with the great task of socialist construction for modernization centering on economic construction, we deeply feel that in order to fulfill this task, the key lies in our party." In the past year our party has continuously adhered to the Marxist ideological, political and organizational lines, put into effect a series of correct policies and guiding principles and devoted great efforts to education in party spirit, party style and party discipline, and made a number of improvements and progress in party style. Popular style is spurred by party style. As a result of the political stability and economic prosperity in our country, great changes have taken place in the mental attitude of the people. Especially in the vast rural areas, with the rapid development of production and improvement of people's standard of living, the peasants are full of joy and every place has a new look about it. The broad masses of peasants are on more intimate terms with the party. They pin their hopes on the party and are more confident in realizing the four modernizations.

Vast numbers of party members fighting in the countryside have played important roles in developing the excellent situation there. The vast majority of them love the party, love socialism and love the collective. They are able to unite and lead vast numbers of peasants in earnestly implementing the party's various policies and guiding principles and in making positive contributions to building material and spiritual civilization in the countryside. Nevertheless, we must also see that quite a number of grassroots party organizations and party members have not yet adapted themselves to the requirements of the new historical period. Some have the problems of impurity in ideology, style and organization. Some are weak and lax, caring nothing for the struggle against bad persons and bad deeds. A handful of grassroots party organizations and party members even take the lead in commiting crimes. All this seriously isolates the party from the masses, harms the prestige of the party and weakens the fighting ability of the party. It must be changed as soon as possible.

As early as 40 years ago, Comrade Mao Zedong said: "Many of our comrades do not know the difference between the Proletariat and the petite bourgeoisie. Many party members have joined the party organizationally, but they have not completely joined the party ideologically, or have not completely joined the party yet." In order to make the vast numbers of party members in the countryside and bring into full play their roles as pioneers and models by which they can lead and influence the masses of the peasant with their practical actions in uniting together for the realization of the party's line and objective, it is necessary to conduct complete and deep ideological education for the party members in the countryside so as to guarantee that the party ranks will better meet the requirements of socialist construction for modernization.

/It is necessary to conduct education in communist ideology./ The essential feature of a Communist Party member is that he must, politically, ideologically, in style and action, steadfastly maintain the natural color of a Proletarian vanguard, master dialectical and historical materialism, adhere to the four basic principles, and firmly embrace the communist world outlook. At present, some party members have lost their interest in Marxism-Leninism-Mao Zedong thought, and have strengthened their feelings for "money and currency." They have forgotten the great communist goals and are keen on their own cause. This is extremely wrong. We must realize that we party members are not only ordinary peasants, but also the members of the Proletarian vanguard. Therefore, we must keep the great communist goal in our minds and be concerned for the "great cause" of the party and people. We must correctly handle the relationships between the state, the collective and the individual. One's personal interests must be subordinated to the interests of the collective. Partial interests must be subordinated to overall interests. Present interests must be subordinated to long-term interests. We must unite the masses and have close cooepration with them in our labor, work and life, bring into play their initiative, enthusiasm and creativity, rely on the wisdom and strength of the collective to overcome various difficulties in marching forward and fight all our lives for communism. Many comrades who joined the party since the "great cultural revolution" lack basic communist awareness. Therefore, it is an urgent task to conduct relatively systematic communist ideological education for them.

/It is necessary to conduct education in the party's various policies and guiding principles in rural areas since the third plenary session/ because "leftist" influence has not yet been cleared away, plus the fact that there is no education or insufficient education being conducted, some party members in the countryside do not quite understand the party's rural line, guiding principles and policies since the third plenary session, or even adopt a resistant attitude toward them. Moreover, some only implement those regulations which suit their own tastes and do not implement those they dislike. All this directly causes bad influence and disruption to the implementation of the party's various rural policies and guiding principles. Therefore, it is necessary to continue education for the party members in the party's line, guiding principles and policies. Through education, vast numbers of party members will understand how our party formulates correct policies on the basis of closely integrating the scientific truth of Marxism-Leninism-Mao Zedong thought with the practical situation of our country, and why it is necessary at the present stage to implement these policies and understand their significance. They will also know how to understand and master the essence of the party's policies and consciously and creatively implement them in practice. At present, special attention should be paid to educating party members in earnestly studying the "minutes of the national conference on rural work" approved and transmitted by the central authorities and to unifying understanding, guiding action and promoting work according to the essence of this document.

/It is necessary to conduct education in party spirit, party style and party discipline./ At present, a handful of party members are carrying out religious, group, faction an superstitous and bambling activities. Some of them are even engaging in smuggling, corruption, robbery, speculation, fraud, bribery, and divulging and selling top secrets of the country. All these things have undermined party unity and discipline. Every party member must, through education, know that it is necessary to abide by the party constitution and the guiding principles for party political life and clearly understand the various expressions of the class struggle under the new historical conditions. Every party member must maintain the purity of the Communist Party and prevent the invasion and infiltration of decadent capitalist ideology and lifestyle, thus building a great wall for consciously resisting capitalist ideology. In multi-nationality areas, it is also necessary to conduct education for the party members in nationality policies, the unity of nationalities, and atheism.

"Ideological education is the key link to be grasped in uniting the whole party for great political struggles. Unless this is done, the party cannot accomplish any of its political tasks." (Mao Zedong: "On Coalition Government") We must, in accordance with this instruction of Comrade Mao Zedong and proceeding from practice, widely, incessantly and deeply conduct ideological education for the vast numbers of party members in the countryside, arm them with communist ideology, and greatly upgrade their communist awareness and their awareness of party spirit, organization and discipline. By so doing, they can faithfully fulfill their solemn pledge when they joined the party and always remember that is is our party's objective to serve the people wholeheartedly, it is our party's ultimate aim to realize communist ideal and that party members must fight for communism all their lives. They must bring into full play their roles as vanguards and models in various tasks and be rooted among the masses of the peasants. They must guarantee that the party's policies and guiding principles be implemented in the grassroots and vigorously mobilize a mighty force to make greater contributions for building a modern, highly democratic and highly civilized socialist new countryside.

CSO: 4007/511

PRODUCTION BRIGADES LOOK AFTER ELDERLY PEASANTS

OW050906 Beijing XINHUA in English 0717 GMT 5 Aug 82

[Text] Beijing, 5 August (XINHUA)--More than 426,000 elderly peasants are now enjoying old-age pension paid by their collectives in 11 Chinese provinces and municipalities, according to a spokesman of the Ministry of Agriculture, Animal Husbandry and Fishery.

The pensions are offered by 3,400 prosperous production brigades in these provinces and municipalities (a production brigade is a collective work unit consisting of one or more villages with scores to hundreds of peasant families). Peasant men aged 65 and over and peasant women over 60 are granted pensions, provided they have worked in the collectives more than 10 years. Generally, an old peasnat man or woman receives a monthly pension of 10 to 15 yuan and, in some areas, receives as mush as 20 yuan a month.

Following the Chinese tradition, pensioned peasants still live with their children who support them as before.

The 11 municipalities and provinces include Beijing, Shanghai, Tianjin, Zhejiang, Jiangsu, Shandong and Liaoning. The pensions are drawn by the production brigades from profits of their collective enterprises, sideline occupations or from their public welfare fund.

In the Huaxi production brigade of Jiangyin County, Jiangsu Province, the 107 peasant pensioners are provided with free food and fuel and supplied with five yuan a month per person. In terms of real income, the monthly pension comes to more than 20 yuan for one person.

Obviously hale and hearty, 80-hearty-old Qu Jiabao and his wife live in a large family comprising four generations. Qu Jiabao said he and his wife are not lonely, looking after their three-year-old great grandson, and are delighted to watch the child toddling about and playing lively.

Some old peasants in the Huaxi production brigade spend their time in raising checkens and rabbits, planting flowers or playing chess. In the brigades newly built 200-seat theater, the eight front rows have sofas and tea tables especially prepared for the aged.

Among the 107 old peasants in the Huaxi production birgade, over 30 have asked to join in collective labor since they are in good health. The leaders assign light jobs to them and pay them for their work in addition to their pensions.

More than 120,000 old peasants have been granted pensions in the suburbs of Shanghai, where the number of pensioned peasants ranks first in China.

Output of grain and economic crops in the ten suburban counties of Shanghai is among the highest of the country for years and, since mid-1970s, most of suburban communes and production brigades have expanded handicrafts, fishery and other side-line occupations, which bring forth over half of the total agricultural income.

In China, respect for the old, an age-old tradition, is also taken as a socialist morality. Old people with no close relatives to look after them in the countryside are entitled to "five guarantees"--food, clothing, housing, medicare and funeral expenses to be provided by the collectives. Some well-off communes or production brigades have also set up homes for the aged.

CSO: 4020/154

BRIEFS

CENTRAL METEOROLOGICAL BULLETIN--The Central Meteorological Observatory issued a strong typhoon bulletin at 0600 [2200 GMT] on 27 July: This year's typhoon No 9 was spawned over the northwestern Pacific on 22 July. At 0500 [2100 GMT] on 27 July, the typhoon was located about 1,000 km off the eastern part of China's Taiwan Province, or 18.8 degrees north latitude and 129.9 degrees east longitude. Maximum winds at the center of the typhoon are force 12. It is expected that the center of the typhoon will continue to gradually move in a northwesterly direction toward China's Taiwan Province at a speed of about 25 km per hour. Winds of forces 6 to 9, caused by the typhoon, are expected on 27-28 July over the eastern part of Taiwan Province, the Balingtan Channel and the Bashi Channel. Strong winds of forces 10 to 12 are expected along the path of the typhoon. It is requested that all units concerned tune in to weather forecasts broadcast by local meteorological stations. [Text] [OW270026 Beijing Domestic Service in Mandarin 2230 GMT 26 Jul 82]

COTTON PURCHASE--Beijing, 25 Jun (XINHUA)--China's commercial departments purchased 2,875,000 tons of cotton by the end of May, an all-time high, according to a national conference that opened here today. The figure represents an increase of 200,000 tons over the 1980 purchase year. The 1981 domestic purchase year starts September 1981 and ends in August 1982. Purchase quotas were topped in the country's major cotton producing centers of Shandong, Jiangsu, Anhui, Hebei, Henan, Xinjiang, Liaoning, Hunan and Jiangxi. The increase helps provide more raw materials for the textile industry and reduces the need for cotton imports. [Text] [Beijing XINHUA in English 0707 GMT 25 Jun 82 OW]

CSO: 4020/154

BRIEFS

LONGYAN PREFECTURE RICE PRODUCTION--Longyan Prefecture, Fujian, has reaped a good harvest of 84,000 mu of early rice, with its per-mu yield reaching as high as 534 jin. The prefecture has also planted 720,000 mu of paddy rice of a disease-resistant strain, and greatly reduced incidents of rice blast. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 23 Jul 82 OW]

FUJIAN PREFECTURES' EMERGENCY HARVEST--As an emergency measure against this year's typhoon No 9, on 26 July, Fujian's Putian Prefecture reaped harvest from 200,000 mu of early rice paddies and on 27 and 28 July, Jinjiang Prefecture reaped 70,000 mu and Longxi Prefecture 100,000 mu of early rice. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 30 Jul 82 OW]

FUZING COUNTY CROP LOSS--About half the 140,000 mu of potatoes in Fuzing County, Fujian, were damaged by this year's typhoon No 9. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 3 Aug 82 OW]

HUIAN COUNTY TYPHOON DAMAGE--About 150,000 mu of Huian County's 210,000 mu of potatoes in Fujian were damaged to various degrees by this year's typhoon No 9. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 4 Aug 82 OW]

SANMING PREFECTURE RICE--Despite adverse weather, Sanming Prefecture, Fujian Province, has reaped a bumper harvest of early rice in this year. The total output of early rice reaped on the prefecture's 1.4 million mu of rice fields was 740 million jin, or 23 percent more than 1981. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 5 Aug 82 OW]

LONGXI PREFECTURE EARLY RICE--Longxi Prefecture, Fujian Province, has scored a bumper harvest from its 1.7 million mu of early rice fields with a per-mu output higher than last year. Total output reported by Zhangzhou municipality and Changtai, Yunxiao, Nanjing, Pinghe and Huaan Counties all topped last year's records, the increase ranging from several hundreds of thousands to some 4 million jin. [Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 6 Aug 82 OW]

CSO: 4007/526

BRIEFS

ANIMAL HUSBANDRY--Guangdong achieved all-round development in animal husbandry in the first half of the year. The number of pigs at the end of June showed an increase of 880,000 over the figure for the beginning of the year, a rise of 4.6 percent. Total pork procurement increased by 15.87 million jin, a rise of 5.9 percent. The number of cattle increased by 335,000, a rise of 8.4 percent. The province now has 100,000 households specializing in raising poultry or rabbits. Some households have raised more than 100 pigs or several score cattle. [HK280739 Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 28 Jul 82]

CSO: 4007/511

BRIEFS

ANIMAL HUSBANDRY--By the end of June Guangxi had 4.43 million cattle, horses, mules, donkeys and goats, 199,000 more than at the same time last year. [Nanning Guangxi Regional Service in Mandarin 1130 GMT 28 Jul 82 HK]

CSO: 4007/511

BRIEFS

GRAIN PROCUREMENT--Despite the many natural disasters and decline in wheat production this year, the rural cadres and peasants in Hebei have done a good job in grain delivery to the state. By 21 July, the province had procured 1.4088 billion jin of summer grain, overfulfilling the procurement quota. In Shijiazhuang Prefecture 580,290,000 jin have been procured, accounting for 41 percent of the provincial total. [HK290427 Shijiazhuang Hebei Provincial Service in Mandarin 0400 GMT 23 Jul 82]

CSO: 4007/511

HAILUN EXPLORES AGRICULTURAL MODERNIZATION

OW031319 Beijing XINHUA Domestic Service in Chinese 0021 GMT 3 Aug 82

[Report by XINHUA Correspondents Sun Minghui, Jing Bo and Wang Changkuan]

[Excerpts] Harbin, 3 Aug (XINHUA)--XINHUA editor' note: What after all is the Chinese way of agricultural modernization? For some time people have done numerous theoretical studies on the subject. Now, Hailun County has made some valuable practice exploration.

Speaking of agricultural modernization, some people's first thought is to invest a lot of money, import complete sets of advanced equipment and one-sidely pursue "modernization" in one way or another. Judging from our country's actual conditions, our agriculture in the future will probably be of the labor-intensive and knowledge-intensive type, not the high energy consuming or highly automated type of agriculture. Proceeding from actual local conditions, Hailun County has taken a road of agricultural development characterized by relying mainly on biological measures; combining biological measures with mechanical measures and other technical measures; all-round development of farming, forestry, animal husbandry and sideline production; engagement in integrated agricultural-industrial-commercial operations; and mutual promotion of science, education and economy. Without much investment and without consuming huge amounts of energy, this road may lead to the initial achievement of what experts regard as agricultural modernization's two goals: to improve the agroecological system and to develop agricultural production in all-round way. Of course, our country has a vast territory and natural and social conditions differ greatly. The Hailun County experience is born on the soil of the Song-nen Plain. With people practicing and exploring, more broad roads will be found for our country's agricultural modernization. (End editor's note)

Hailun County, Heilongjiang, has conducted scientific experiments in agricultural modernization for only 3 years, and not only have gratifying changes taken place in the whole county's agricultural production and ecological system, but a road to develop agriculture has been initially found which requires little investment, shows quick results, yields high returns and gives real benefits to peasants. The county has gained important experience in exploring a road toward a Chinese way of agricultural modernization.

Hailun County is located on the Song-nen Plain in central Heilongjiang and, climatically, it belongs to the temperate zone. The land is fertile and rainfall is quite plentiful. The per capita acreage of farmland in the county is five mu. The natural conditions for agricultural production are quite good. Since the late 1950's however, due to the influence of "left" thinking, forests and grasslands here were destroyed to reclaim farmland and, as a result, there was increasing ecological deterioration and frequent natural disasters, and agricultural production growth was slow, per mu grain output increasing by only a few dozen jin in more than 20 years.

In 1978, the Heilongjiang Provincial CCP Committee and the Chinese academy of sciences organized more than 100 agricultural specialists and senior and middle-level scientific research and teaching personnel to conduct comprehensive scientific experiments for agricultural modernization together with Hailun County's cadres and masses. In only 3 years the situation has changed. Comparing the average figures for the 3 years between 1979 and 1981 when scientific experiments in agricultural modernization were being conducted with the 3 years before the experiments, total grain output increased by 14 percent, marketable grain sold to the state increased by 35.9 percent, the total agricultural output value increased by 22 percent, and other farm and sideline products, such as hogs, cattle, sheep, milk, beets and flax increased by even greater margins. Collective accumulation and commune members' income also showed great increases.

In conducting scientific experiments for agricultural modernization, the agricultural specialists and the Hailun people have focused their work on "adapting to China's conditions" and especially on "adapting to the conditions of the Song-nen Plain in northeast China," and broken away from many of the old ideas on agricultural modernization.

First, whenever people talked about agricultural modernization in the past, many felt that it could not be done without heavy investment. Since Hailun County began conducting scientific experiments in agricultural modernization, it has never asked the state for extra investments, nor has it received more bank loans than the average level received by all counties in Heilongjiang. Mainly by rationalizing the production structure, which resulted in considerable improvements in the ecological environment and production conditions, and simultaneously bringing into full play the role of advanced agricultural technology, agricultural development has been accelerated.

Second, whenever people talked about agricultural modernization in the past some wanted to import a lot of advanced equipment or simply concentrate on engineering and construction, one-sidedly pursuing "modernization" in one way or another. Hailun County has proceeded from actual conditions and adopted the practice of combining biological measures with mechanical measures and other technical measures, with empahsis on biological measures.

Based on the agricultural specialists' recommendations, Hailun County has vigorously readjusted the proportions between agriculture, forestry and animal husbandry and within agriculture itself, and accelerated the development of the two "short legs": Forestry and animal husbandry. Beginning in 1979, they have carried out three major readjustments in crop patterns according to local conditions turning more than 400,000 mu of scientifically unsuitable grain fields into fields growing cash crops--mainly soybeans, forage grass and other forage crops. At the same time, they have actively planted trees under a unified plan according to needs, including water and soil conservation forests on tracts of sloping farmland and shelter forests in selected areas on vast stretches of flat land, and distributed lowlying lands to commune members to grow trees for fuel. In 3 years, the county has afforested 200,000 mu of land, over 50,000 mu more than the total area afforested in the previous 28 years. During the same period, animal husbandry has also grown correspondingly. As of the end of 1981, the county's sheep, milch goats and milch cows increased 5 to 15 times the numbers in 1978.

Hailun County emphasizes biological measures, but it does not ignore the adoption of mechanical measures and other technical measures. In the past few years, they have selectively bought more than 400 large and medium-sized tractors and more than 2,000 hand-guided tractors on the basis of requirements and affordability.

Third, when people talked about agricultural modernization in the past, they often only gave consideration to the adoption of new technology. While adopting technical measures, Hailun County has also paid attention to reforming the economic structure, stressed scientific management and strived for the greatest possible economic results.

To achieve agricultural modernization, it is imperative that commodity production is developed. In the past few years, Hailun County has paid attention to developing processing industries using farm and sideline products as raw materials, enlivening circulation channels and building a rational economic system which consists of cropping, breeding, processing and integrated agricultural-industrial-commercial enterprises while regarding this as an important part of agricultural modernization.

Fourth, Hailun County has paid great attention to the important role of tapping the intellectual resources in carrying out agricultural modernization. They hold that "without first rate technically competent peasants, there can be no first rate modern agriculture." Here, many communes and production brigades are willing to spend money on training competent people. The county is presently running a rural construction school for the rotational training of technicians and commune and brigade cadres, and the communes and production brigades have generally set up technical training classes or technical night schools. As many as 100,000 young and middle-aged people, more than a half of the country's young and middle-aged peasants, are regularly studying at these classes and schools. More than 10,000 peasant-technicians have received training. They are active on the production frontline and in scientific experiments and have become the backbone force in agricultural modernization.

CSO: 4007/511

BRIEFS

DAIRY FARMING--Harbin, 26 Jul (XINHUA)--Heilongjiang Province has become China's largest dairy products center, following the establishment of dairy cattle farms in 60 cities, counties and state farms since 1979, according to the provincial light industrial department. The province produced 11,500 tons of dairy products in the first half of this year, a 35.2 percent increase over the same period in 1981, the department reported. The products include powered and condensed milk, butter and cream. Last year the province's output of dairy products came to 18,500 tons, 110 percent more than in 1978. The department attributed the increase to encouraging rural collective units and individuals to raise milk cows and increasing the purchasing price for fresh milk. With 3.33 million hectares to grasslands and pasture land, Heilongjiang now has 114,000 head of milk cows, 83.9 percent more than in 1978. [OW281203 Beijing XINHUA in English 0243 GMT 26 Jul 82]

TIMBER OUTPUT--Forestry areas in Heilongjiang Province have made progress in producing timber from tree branches. In the first half of 1982, the province turned out 262,900 cubic meters of timber of this kind, a more than 148,000 cubic meter increase over the output of the corresponding 1981 period. [SK251020 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 23 Jul 82]

SOYBEAN PROCESSING PLANTS--Three self-designed and self-constructed soybean processing plants were recently commissioned in Harbin, Qiqihar and Jixi Municipalities. The three large-sized modern soybean processing plant have a combined daily processing capacity of 480 tons of soybeans. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 22 Jul 82 SK]

PROLONGED HIGH TEMPERATURE--Heilongjiang Province's summer high temperature arrived early this year and continued longer than usual, breaking a 30-year record for this period. Coupled with high temperature was weather characterized by little rain, dry hot air, low humidity and rapid evaporation, which definitely affected industrial and agricultural production and peoples' lives. On 10 July, the provincial weather bureau predicted that high temperatures will continue until after mid-July and rain precipitation will increase in various areas in the province beginning late July. Temperatures will also fall by then. The weather bureau attributed the consistent high temperature to a prolonged high pressure in Central Asia and a warm air mass moving eastward from Qinghai-Tibetan Plateau. High temperatures and low precipitation were the main characteristics of this summer's weather in Heilongjiang, according to the provincial weather bureau. [Excerpts] [Harbin HEILONGJIANG RIBAO 11 Jul 82 p 1]

CSO: 4007/528

HENAN

BRIEFS

PREFECTURE'S GRAIN PROCUREMENT--By 28 June, Nanyang Prefecture had stored 585.04 million jin of summer grain in granaries. Deng, Tanghe, Sheqi, Xinye and Zhenping Counties and Nanyang Municipality have overfulfilled their grain procurement quotas for this year. Deng and Tanghe Counties have stored more than 100 million jin of summer grain in granaries. Every person in Sheqi County sold an average of 148 jin of grain to the state. [Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 1 Jul 82 HK]

NATURAL PROTECTION ZONES--To protect rare wild animals and develop and utilize natural resources, the Henan Provincial People's Government recently decided to set up 13 natural protection zones in the province. These 13 natural protection zones are 12 state-owned forest zones in Song, Xixia, Luanchuan, Lushan, Nanzhao, Shangcheng, Xin, Luoshan, Tongbai, Xinyang, Jiyuan and Lingbao counties and 1 collective forest zone in Jiyuan County. The total area of the natural protection zones is 1.278 million mu. Wild animals and plants abound in these natural protection zones. [Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 1 Jul 82 HK]

GRAPE PRODUCTION BASES--The Henan Provincial CCP Committee and the provincial people's government recently decided to build 1 million mu of grape production bases in 18 counties in Shangqiu, Kaifeng, Zhoukou, Anyang and Xinxiang Prefectures and in the suburbs of Zhengzhou and Kaifeng Municipalities. They have also planned to build a fermentation township in every 5,000 mu of vineyards and a brewery in every 30,000 mu of vineyards. The motion on building grasp production bases was put forward by Dai Suli, secretary of the provincial CCP Committee and governor and He Zhukang, vice governor. According to the plan, the province will now begin to make preparations for building 1 million mu of grape production bases and will complete this work by 1985. It is estimated that the average annual output of grapes per mu will be 1,500 jin, and as the price of every jin of grapes is .25 yuan, the income from 1 million mu of vineyards will be approximately 400 million yuan. [HK090245 Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 1 Jul 82]

CSO: 4007/511

BRIEFS

PIGS--Pig production revived and developed in Hubei during the first half of the year. According to statistics, the number of pigs in the province at the end of June exceeded 15 million, an increase of 160,000 compared with the same time last year. Stocks of pork have greatly increased in Wuhan, Huangshi, Shiyan, Shashi and Xiangfan Municipalities. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 23 Jul 82 HK]

PEASANT INVESTIGATION--The provincial statistics bureau recently investigated the domestic economic conditions of 948 peasant households in various counties. The investigation showed that their average cash income per individual in the first half of the year was 93 yuan, an increase of 32 yuan over the same period of last year, while average cash expenditures per individual were 94 yuan, an increase of 31 yuan. Cash income from their sales of agricultural, forestry, animal husbandry, sideline products and fisheries produced average 35 yuan per individual, an increase of 10 yuan compared with the same period last year, while they spent an average of 72 yuan per individual on buying industrial products, an increase of 25 yuan. [HK021244 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 30 Jul 82]

CSO: 4007/511

HUNAN

BRIEFS

HUNAN GRAIN CROP HARVEST--Hunan Province reaped a bumper harvest of 1982 spring-summer harvested grain crops. According to the estimate by the concerned departments, the total output of these crops increased by 5.9 percent over 1981's. Hunan Province's major spring-summer harvested grain crops are wheat, broad beans, peas and potatoes. After planting some of these crops last winter, various locations strengthened cultivation management and applied overall mud fertilizer. As a result, the kernels are full and healthy, increasing the weight by the thousands of kernels. The total output of spring-summer harvested grain crops in Changde, Lianyuan, Yueyang and other prefectures is 10 percent higher than 1981's. [Beijing BEIJING RIBAO 15 Jul 82 p 4]

CSO: 4007/525

EFFORTS MADE TO RAISE FARM YIELDS IN HU-HUAI AREA

Beijing ZHONGGUO NONGMIN BAO in Chinese 9 May 82 p 1

[Article: "Bring Out the Potential for Increased Output of Medium- and Low-Yield Areas:]

[Text] Suiting measures to local conditions, the Xu-Huai area in Jaingsu Province has extensively popularized experience in intensive cultivation of high-yield areas and has brought out the potential for increased output of medium- and low-yield areas. Last year the total grain output was 15 percent higher than in the big harvest year of 1979, and in some places the level of intensive cultivation approached or exceeded that of southern Jaingsu.

The Xu-Huai area in northern Jaingsu roughly includes the three prefectures of Xuzhou, Huaiyin, and Yancheng. At the time of liberation, it was a dry grain crop area and very little paddy rice was planted. Water conservancy projects were built at the beginning of the 1950's and paddy rice production was not high. In 1978 it was no more than 300 to 400 jin, and was much lower than in the high-yield areas of southern Jiangsu. The reason for this was that field cultivation and management were relatively extensive. For this reason, the leaders at all levels in the Xu-Huai area paid much attention to the experience of high yields in southern Jiangsu and, suiting the experience to local conditions, popularized it.

After the 3d Plenary Session of the 11th CCP Central Committee, because the production responsibility system was set up on a widespread scale and was being continuously perfected, the demand by the peasants in the Xu-Huai area to learn intensive cultivation techniques became more imperative. This area is suitable for rational crop rotation, viz, 2 crops in 1 year consisting of rice and wheat, and 3 crops in 2 years consisting of rice, wheat, and green fertilizer. Over the past several years, there has been extensive popularization of Suzhou Prefecture's measures of intensive cultivation, viz, breeding sturdy seedlings, leveling land, having one irrigation ditch and one earth bank, straining salt through water, and using fertilizer to repress alkali, so that in the Xu-Hua area the acreage of paddy rice has been expanded by an average of about 1 million mu a year. In 1979, the per unit area yield of paddy rice in Huaiyin Prefecture was 400 jin; last year the 500 jin barrier was broken. The total grain output of the three prefectures last year was the highest in history and was 2.8 billion jin more than in the big harvest year of 1979. Last year Huaijin Prefecture increased its grain output by 1.4 billion jin. With the increased grain output and the development of a diversified economy, the income of the peasants has risen rapidly and their life has continually improved. In Sihong County, the average income distribution rose from 42 to 121 yuan, and in Xuyu County it rose from 60 yuan to 173 yuan.

The large-scale agricultural output increase in the Xu-Huai area guarantees a province-wide growth in agricultural output. Supported by the provincial party committee and the departments concerned, the peasants adopted the following relatively useful measures.

1. Cadres from agriculturally advanced areas have been transferred to the Xu-Huai area, and in its thinking the leadership has attached importance to the popularization of advanced experience. At present, the princial responsible persons on the party committees of the three prefectures are persons who had been transferred from southern Jiangsu, and once 50 communes secretaries were transferred at one time.

2. Agrotechnical cadres from southern Jiangus have been invited to come to the Xu-Huai areas and pass on experience, or the Xu-Huai area has sent technicians and cadres to southern Jiangsu to study and to actively take part in the province's annual agrotechniques exchange activities between the northern and southern areas of Jiangus. Also, every year Chen Yongkang [7115 3057 1660], a peasant paddy rice expert, is invited to come to northern Jiangsu to help solve problems encountered in paddy rice production.

3. In academic thinking, the strategic significance of developing the Xu-Huai is clearly recognized. Last year, the provincial scientific and technological association organized over 90 experts and scholars from 14 learned societies--including those on agronomy, water conservancy, forestry, soils, weather, silkworm mulberry, aquatic products, and animal husbandry--to go to the Xu-Huai area and conduct on-the-spot investigations. After comprehensive analyses, they proposed that the Xu-Huai area be built into a base for the production of diversified agricultural commodities.

9727
CSO: 4007/241

COMMENTARY ON DEVELOPING MEDIUM-, LOW-YIELD AREAS

Beijing ZHONGGUO NONGMIN BAO in Chinese 9 May 82 p 1

[Article: "Vigorously Develop Medium- and Low-Yield Areas"]

[Text] According to statistics compiled by the departments concerned, high-, medium-, and low-yield areas each roughly make up one-third of the country's cultivated land. In per unit area yield, the highest for grain is over 1 ton and for ginned cotton several hundreds of jin; the lowest for grain is several tens of jin and for cotton between 10 and 20 jin. The differences are extremely large. Therefore, the problem of how to bring out the potential of medium- and low-yield areas has drawn people's attention more and more.

In medium-yield areas, more often than not the natural conditions are good and there is adequate technology, and so long as these areas are conscientiously developed the production features can swiftly change. At present, they are the areas where there is the greatest potential for increased production. The experience of Xu-Huai were, first, the masses were enthusiastic; second, the leadership was determined; third, the technical personnel played their role; and fourth, attention was paid to suiting measures to local conditions. This suiting of measures to local conditions was very important. It is possible that in medium- and low-yield areas there are high-yield communes and production teams, and it is also possible that in medium- and low-yield communes and production teams there are high-yield plots. Therefore, while introducing advanced experiences from outside, a given locality must sum up its own advanced experiences and learn from others' strong points to offset its own weaknesses in order to obtain better results.

Of course, while developing medium-yield areas, we must also get a good grip on high- and low-yield areas. High-yield areas have always made big contributions to the state. To maintain high and stable yields, and to work hard for increases amid stability--this is what high-yield areas should be able to do. And although it is difficult for the low-yield areas where production conditions are very poor to suddenly catch up with the high-yield areas, they must summon up their spirits and, on the foundation of solving the problems of their people having enough to eat and wear, strive hard to improve their production conditions and do all they can to change the features of production as quickly as possible.

9727
CSO: 4007/241

BRIEFS

RICE MEETINGS--Recently the Jiangsu Provincial Agricultural and Forestry Department held meetings on paddy rice field management in Jianhu and Yancheng counties. Attending the meetings were nearly 100 leaders and technical cadres in charge of rice production. They pointed out that this year Jiangsu has only 36.4 million mu of double-cropped paddyfield, or some 900,000 mu less than last year, and this, plus other problems such as plant diseases, insect pests and insufficient supply of chemical fertilizers will make it a not easy task to achieve a bumper harvest this year. For this reason, they said, all-out efforts should be made to strengthen field management so as to overcome the difficulties and ensure a good harvest. [OW010456 Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 3 Jul 82]

COTTON MEETINGS--The Jiangsu Provincial Agricultural and Forestry Department recently held on-the-spot meetings in Dongtai and Judong Counties on management of cotton fields. Comrade Zhou Ze, secretary of the provincial CCP Committee and concurrently vice governor of the province, addressed both meetings. The meetings stressed the necessity to strengthen cotton field management with particular attention to controlling cotton diseases and insect pests. This year Jiangsu Province has nearly 10 million mu of cotton, which, according to the meetings, are in fine growing condition. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 14 Jul 82 OW]

HUAIYIN COUNTY WHEAT PRODUCTION--Huaiyin County, Jiangsu, reaped more than 174 million jin of wheat, barley and naked barley this summer, an increase of 20 percent over last year. The county's total rapeseed production amounted to 10 million jin, about 200 percent higher than last year's output. [OW100627 Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 3 Jul 82]

JIANGSU SUMMER GRAIN PROCUREMENT--Jiangsu Province made a breakthrough in summer grain procurement. The province has procured 5 billion jin of summer grain, overfulfilling the quota ordered by the state by 56 percent. This is unprecedented in the province's summer grain procurement history. [Beijing RENMIN RIBAO in Chinese 2 Aug 82 p 1]

CSO: 4007/527

BRIEFS

DUCHANG COUNTY RICE--Jiangxi's Duchang County has reaped a bumper early rice harvest this year with per-mu output increasing by over 20 percent over last year and total output reaching 221.6 million jin, an increase of 19 percent over last year. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 8 Aug 82 OW]

GUANGFENG COUNTY RICE--Jiangxi's Guangfeng County has had a bumper harvest from its 258,000 mu of rice fields. Output is expected to reach 188.34 million jin, increasing by 11.38 percent over 1981, with average per-mu yield of 730 jin. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 8 Aug 82 OW]

CSO: 4007/526

JILIN

BRIEFS

GRASSLANDS IMPROVEMENT URGED--The animal husbandry general bureau of the Ministry of Agriculture, animal husbandry and fisheries held an on-the-spot meeting on grassland improvement in Daan County in Jilin Province on 23 July. Grassland experts from various provinces visited Daan County's pastures. The usable grassland in Daan County declined from 4.26 million mu in 1949 to 2.25 million mu in 1982. The rate of increase of draft animals decreased from 15 percent in the 1950's to 2 percent in 1982. To divert grassland degeneration, the county added 440,000 mu of man-made pastures and planted 13,000 mu of grass and recently decided to plant grass on 150,000 mu of alkaline land. [SK260550 Changchun Jilin Provincial Service in Mandarin 1100 GMT 25 Jul 82]

CSO: 4007/511

BRIEFS

AFFORESTATION--As of 22 July, Liaoning Province had afforested 280,000 mu. Chaoyang Prefecture has so far leveled 87,000 mu of land for afforestation. Other municipalities such as Jinzhou and Dalian are also engaged in levelling land for afforestation during the rainy season. [SK270657 Shenyang Liaoning Provincial Service in Mandarin 2200 GMT 26 Jul 82]

CSO: 4007/511

BRIEFS

WHEAT OUTPUT--Bayannur League, Nei Monggol autonomous region, is expected to reap a bumper wheat harvest this year. As of 19 July, the league had harvested over 200,000 mu of wheat crop. In 1982, the league sowed over 1.8 million mu of wheat, a 125,000 mu increase over the 1981 acreage. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 23 Jul 82 SK]

LIVESTOCK OUTPUT--Ju Ud League, Nei Monggol autonomous region, has reaped a bumper harvest in animal husbandry this year. The league has had 6.72 million head of animals, a 300,000 head and 22.9 percent increase over the 1981 figure. Meanwhile, Jirem League has also scored achievements in raising cattle. The league has 925,057 head of cattle, a 67,846 head increase over the 1981 figure. Since 1981 Jirem League has sold 77,054 head of cattle to the state and exported 24,000 head of cattle. [SK250800 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 23 Jul 82]

ANIMAL HUSBANDRY--Alxa League, Nei Monggol region, witnessed productive camel breeding in the first half of 1982. The total number of camels reached 251.475 head, the highest figure in history. This league has also allocated 85.88 million jin of fodder grass to feed camels and transferred 34,000 head to grazing in other localities. [SK270654 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 26 Jul 82]

ANIMAL HUSBANDRY--Xilin Gol League, Nei Monggol region, experienced productive livestock breeding in the first half of 1982. The total number of livestock reached 7,819,000, an increase of 670,000 head or 30.8 percent. The total number of livestock in Bayannur League reached 1,725,000 in the first half of 1982, an increase of 170,000 head. Ju Ud League sheep breeding farm has turned out 87,540 head of fine wool sheep and 2,561,700 jin of fine wool to the state in the past 23 years since its founding. [SK260215 Hohhot Nei Mongool Regional Service in Mandarin 1100 GMT 25 Jul 82]

LIVESTOCK OUTPUT--Jirem League in Nei Monggol autonomous region scored remarkable achievements in livestock production in the first half of 1982. According to statistics, the league had over 3,581,500 head of young and grown animals, an over 695,200 head increase over the number of the corresponding 1981 period. While registering increases in the number of sheep and cattle, the league has also increased output in raising hogs since June 1981. By the end of June, the league had over 1,668,600 heads of hogs. [SK220408 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 21 Jul 82]

ANIMAL HUSBANDRY--Alxa League, Nei Monggol region, has witnessed productive livestock breeding in 1982. The total number of livestock reached 1,875,867 head, an increase of 275,861 head above plan. [SK031128 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 1 Aug 82]

GRASS PLANTING--Taking advantage of the rainy season, Nei Monggol is speeding up grass planting. So far the region has planted 1.5 million of grass. The region plans to plant 3 million mu of grass this year, about 1 million mu more than 1981. [SK280555 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 27 Jul 82]

CSO: 4007/511

BRIEFS

LIVESTOCK BREEDING--Yinchuan, 27 Jul (XINHUA)--The Ningxia Regional Animal Husbandry Bureau reports that the total number of sheep and large farm animals has increased in the stockbreeding year of 1982 (June 1981--June 1982). Ningxia region, one of China's major pastoral areas, was hit by sandstorms, snowstorms and a dry spell last winter and this spring. There has not been a saturating rain since January this year in the area, yet the number of sheep was up by 13 percent over last year's livestock totalling 3.27 million. The number of large farm animals used for hauling, including cattle, horses, donkeys, mules and camels, rose by 5.6 percent from last year's 570,000. The new production responsibility system was first put into practice in the region in 1980, and since then herdsmen have taken particularly good care of the sheep for which they were personally responsible by contract. The lambing rate and survival rate all have increased since then. [Text] [OW281205 Beijing XINHUA in English 0747 GMT 27 Jul 82]

CSO: 4020/154

BRIEFS

FARM-MACHINE SALES INCREASED--In the first half of 1982, sales in farm machinery throughout Shandong Province reached more than 446,711,000 yuan, topping the peak of the previous period. The sales of farming power, drainage and irrigation machinery increased 62 percent over the figures of the corresponding 1981 period. This year the province has enjoyed brisk sales in small-sized and semi-automatic machines. [SK240609 Jinan Shandong Provincial Service in Mandarin 2300 GMT 22 Jul 82]

TOBACCO OUTPUT--In spite of a serious drought, Shandong Province has reaped a bumper harvest this year over its more than 1.5 million mu of tobacco crops. As of 21 July, the province had procured over 420,000 dan of tobacco leaves, over a 3-fold increase over the output of the corresponding 1981 period. The government also grants an 8-yuan increase per dan in the procuring price. [SK250804 Jinan Shandong Provincial Service in Mandarin 2300 GMT 24 Jul 82]

CSO: 4007/511

SICHUAN ISSUES NEW RURAL ECONOMY REGULATIONS

HK261401 Chengdu SICHUAN RIBAO in Chinese 14 Jul 82, pp 1, 2

[Report: "Provincial CCP Committee and Government Lay Down 10 Policy Regulations to Suit the New Situation and Speed Up Rural Economic Development"]

[Text] The Sichuan Provincial CCP Committee and the Sichuan Provincial Government, issued, on 29 June, the "policy regulations on certain questions concerning speeding up our province's rural economic development." The document read:

In order to speed up rural economic development in our province, while continuing to implement a series of effective policies laid down by the central authorities and by the provincial committee, it is necessary to adopt some policies and measures which are suited to the new conditions. After thorough discussion in the work meeting of the provincial committee, the provincial CCP Committee and the provincial government have made the following policy regulations.

1. In the course of implementing the "two systems" in forestry, localities, wherever conditions permit, should all appropriately increase private mountains assigned to peasants. Barren hills, waste hillside land and scattered plots which are not suited to collective management should be assigned to peasant households for planting trees. The collectives will maintain land ownership while woods and trees should be owned by the peasants and can be inherited. It is necessary to energetically encourage peasants to develop small orchards, mulberry fields, tea plantations or plant other economic woods on scattered plots, private hills and other plots specified by production teams. Income from these operations should belong to the peasants. This should remain unchanged for a long time to come. The state and the collectives should actively support peasants by providing seedlings and technical guidance. Whole tracts of woods owned by the collectives should be subject to the system of "four-specialization and one-contract." Economic woods around farmland should be contracted to the peasants together with the farmland. Measures like combining unified management with separated management, laying down quotas for income turned over to higher authorities in contracts and sharing out income in certain proportions, should be adopted, so as to allow direct operators to earn more if they yield more. Waste hillside plots suited to be handled by collectives can be handled by special teams and groups organized by production teams. They can also be assigned and contracted to peasant households for planting trees. Once the contracts are fixed, they will be kept for a long time to come. Gains

should be shared out between the collective and the peasant, with a large portion retained in the hands of the peasant.

2. The conservation of state-owned forests which the state is not able to manage and conserve can be contracted to local production teams and reasonable remuneration should be give to these teams. The trees planted along railroads, highways, rivers and canals and around reservoirs should be carefully protected. Units in charge of the areas along railroads, highways, rivers and canals or around reservoirs can plant trees and own the trees in these areas. They can also plant trees by cooperating with local communes and teams, with gains shared out among the parties concerned. The nearby communes and teams can also afforest these areas after the departments in charge agree. In that case, forests are owned by communes, teams or peasants, but tree-felling must be conducted in accordance with the regulations concerned laid down by the departments in charge.

3. In mountainous areas, capital construction of farmland must be stepped up to increase per area unit yeild. It is first necessary to guarantee a stable growth in gross grain output. At the same time, fields on steep slopes where farming should gradually give way to forestry or animal husbandry can be specified as reserve land by the production teams and contracted to special groups and households for planting trees and grass. As for those which have been contracted to peasants as "responsibility fields," as long as the accomplishment of assignments laid down by higher authorities is guaranteed, contractors can plant trees on these fields which are contracted to them for a long time and keep the gains for themselves. Or as alternative, collectives can provide seedlings to contractors or offer certain rewards, while gains are to be turned over to the collectives according to the quotas or shared out with a large proportion going to the peasants.

4. The provincial party committee decided in 1980 that, from 1981 on, "the provincial financial department will allocate 15 million yuan a year to remote areas, including the remote mountainous areas, as subsidies to the communes and teams there for planting 1 million mu of rapid-growing high-yield commercial forrests." In the same year, the provincial government issued a document and made concrete plans for this. This is an important policy for speeding up forestry construction in remote areas of our province. It has won popular support. The department concerned has carried out an inspection on last year's implementation and this year's plan and arrangement. They have resolved some problems, so as to guarantee the continual implementation of this policy. The forestry funds and development funds should be confined to being used for afforestation. Their use for other purposes is prohibited.

5. In 1980, the provincial party committee decided to offer 395 million jin of grain subsidies to support the rehabilitation of communes and teams in mountainous areas, impoverished areas and minority nationality regions, so that they could readjust agricultural structure and develop production. Practice has proved that this is effective. The original plan was to carry out this measure for a period of 3 years. Now, it is decided to extend the time to 1990. Quotas of grain subsidies distributed by the provincial authorities to prefectures, municipalities and autonomous prefectures will remain unchanged. But prefectural

and municipal authorities can appropraitely adjust quotas they issue to counties on the basis of rationalizing the use of these subsidies to suit the changed conditions in production development. The same goes for county authorities to communes and teams. These grain subsidies should be unifiedly arranged by county authorities. They should be mainly used for offsetting the reduction in grain purchase from the production teams where farming is giving way to forestry and animal husbandry or grain output is low and where grain is in short ration. The grain subsidies can also be used to subsidize the construction of bases for forestry, animal husbandry and other diversified undertakings. Generally, the purchase of agricultural, sideline and native products should not be linked with grain.

6. In order to give more decisionmaking power to the counties in mountainous areas in tackling the grain problem, so as to facilitate the readjustment of the agricultural structure, it is decided that the responsibility system of controlling grain within a specified quantity will be put into effect in the big counties in mountainous areas (not including those in the three autonomous prefectures). On the basis of current differences in grain purchasing and marketing in the areas concerned, some of these counties will be required to turn over grain by quotas to higher authorities, some can be provided with grain subsidies by quotas, while others will be required to realize grain self-sufficiency. The corresponding financial responsibility system will also be exercised in these counties. This measure will be maintained for the next 5 years.

The counties in mountainous areas where financial deficits could not be removed for many years running are now required to try out the financial subsidy responsibility system. Under this system, a fixed amount of subsidy which is equal to the deficit in the 1982 budget will be allocated to a county concerned in each of the next 3 years. Henceforth, financial surplus there can be controlled by the counties and should mainly be used for developing the economy in mountainous areas, highway construction, cultural and educational undertakings and the popularization of science and technology. After this responsibility system is put into effect, new items laid down by higher authorities which give rise to increases in expenditure or reduction in income should all be undertaken by these counties except the salary adjustment in administrative institutions which will be borne by the provincial authorities. The provincial authorities will put the above principle into effect in Peiling, Wanxian and Yaan Prefectures where financial expenditure exceeds income. These prefectural authorities can decide specific methods to exercise the financial responsibility system in their counties. As for other deficit-incurring counties in mountainous areas, financial responsibility system quotas will be laid down by the prefectural authorities. The province will maintain the current financial system between the province and these prefectures. But the province will exclude the financial surplus in the counties where financial responsibility system is in effect when it workd out financial targets for these prefectures.

7. Agricultural and sideline products will be purchased on the basis of quotas or proportions. The policy in this aspect must be stable. The contract system should be earnestly perfected. Targets laid down by the state for unified purchase, assigned purchase and transfer of agricultural and sideline products

must be fulfilled. The right of the collectives and the peasants to dispose of the portion of products specified in the policy should also be guaranteed. In this aspect, the specific stipulations laid down by the provincial party committee and the provincial government.

8. For speeding up rural economic development, it is necessary to carry out various forms of integrated and joint undertakings. Under the principles of voluntary participation, mutual benefit, equality and consulation, joint-ventures and integrated undertakings in various forms between different regions and trades and between economic units under differnet ownership forms should be encouraged and developed. The units participating in joint ventures and integrated undertakings will maintain their ownership forms, subordinate relationships, their position as basic accounting units and the relationships in payment of taxes and transfer of profits. Their output value and taxes imposed on them will be calculated on the basis of basic accounting units. Party committees, governments and the departments concerned at all levels should strengthen planned guidance of integrated enterprises in various forms, prevent duplication in guilding factories and help them coordinate all aspects of the relationships in the distribution of economic interests. By organizing integrated undertakings and taking other forms to carry out economic and technical cooperation, planning councils, economic councils and the state-owned enterprises concerned at all levels should help counties in mountainous areas and minority nationality regions develop the processing industry and mining industry and handle primary processing and multipurpose use of products. The experience of Qionglai, Dazhu, Hechuan and Gulin Counties in handling integrated undertakings should be summed up and promoted. At the same time, it is necessary to energetically develop various special households, key households and associated households in rural areas, support peasants' household sideline occupations and encourage peasants to get rich by working hard.

9. In order to train various types of technical personnel with professional knowledge for rural construction, it is necessary to step up the reform of the secondary education system in rural areas. It is required that most of the counties should transform one of the existing ordinary secondary schools into a vocational secondary school (not responsible for assigning work to students after graduation) within 2-3 years. At the same time, vocational classes should be run in ordinary high schools and professional courses should be offered there. Vocational schools transformed from ordinary schools will receive their funds through the former channels and be managed unifiedly by the educational department and they will be provided with more professional teachers. The departments concerned should organize some professional technicians to work as part-time teachers in these vocational schools. They should also offer their support by providing training places and requisite experiment equipment. All professional departments can run various short-term technical training classes according to needs.

10. In order to replenish and strengthen the cadre ranks at the commune level, besides following the three measures put forth by the provincial party committee earlier this year, vacancies in the commune leading organs can be filled by selecting some capable personnel from the commune cadres still engaged in production on a part-time basis and from excellent cadres of brigades and teams

with party membership. They should be young and strong, have good educational and technical backgrounds and pass strict tests. (The three measures put forth by the provincial party committee earlier this year are as follows: 1. Selecting some technical secondary schools graduates in agronomy, forestry, hydraulic engineering and finance every year and assign them work in the commune organs. 2. From the personnel who fill the staff quotas left by retiring cadres, selecting those who are promising and meet the requirements for cadres to work in the commune organs after giving them overall tests. They will still be treated as workers and continue to be temepred and tested in the first 2 years, and after that, those who are outstanding can be promoted as commune cadres. 3. From enterprises, institutions and administrative organs, selecting some of the excellent agricultural technical personnel and young cadres to strengthen the commune cadre ranks.)

At the end, the document said: If something in the documents issued by the provincial party committee and the provincial government in the past does not conform with the stipulations in this document, the norms for future work should be the regulations in this document. Party committees and governments at all levels and the provincial departments concerned should work out specific measures and methods in accordance with the above regulations and guarantee their implementation.

CSO: 4007/511

BRIEFS

PIGS--By the end of June, Sichuan had 51 million pigs, 920,000 more than at the beginning of the year. The trend for the number of sows to decline has been reversed, since there were 3.36 million at the end of June, 110,000 more than in January. During the first half of the year 12.32 million porkers were marketed, 230,000 more than in the same period last year. [Chengdu Sichuan Provincial Service in Mandarin 0030 GMT 28 Jul 82 HK]

CSO: 4007/511

TIANJIN

BRIEFS

SUMMER-AUTUMN CROPS--The serious drought has resulted in the reduction of summer crop output in Taianjin. To make up the reduction with the increase in autumn crops, Tinajin has expanded the acreage sown in coarse food grain by 150,000 mu and the acreage sown in high-yield corn by 430,000 mu. Among the 630,000 mu of cornfields in Wuquing County, 90 percent are of fine strains. Thanks to the fainfall on 12 June, the drought in most areas has been relieved, but some areas still suffer from drought. [SK220433 Tianjin City Service in Mandarin 0030 GMT 22 Jul 82]

CSO: 4007/511

ZHEJIANG

BRIEFS

HOG PROCUREMENT--As of the end of June, 5,539,700 hogs had been purchased from Zhejiang Province, fulfilling 58.3 percent of the annual procurement plan and topping the record for last year's corresponding period by 26,000 head. During the first half of this year, 3.86 million hogs were butchered for the province's meat market. [Hangzhou Zhejiang Ribao in Chinese 13 Jul 82 p 1 OW]

CSO: 4007/511

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ORG: Rice Breeding Station of Fengxin County, Jiangxi Province

TITLE: "Breeding of Upland Rice Varieties by Means of Irradiation"

SOURCE: Shijiazhuang YUANZINENG NONGYE YINGYONG [APPLICATION OF ATOMIC ENERGY IN AGRICULTURE] in Chinese No 1, 1982 pp 15-21

TEXT OF ENGLISH ABSTRACT: Red-grain rice varieties are popularly grown in Fengxin County. They have good adaptability and are tolerant of cold weather. Some varieties, such as Liu-tiao-hong, have very good palatable qualities. But these varieties usually have been tall and lodged easily, hence lower in yield. Since 1973 we have begun to improve these upland rice varieties by means of irradiation. So far 14 mutant lines have been obtained among which 4 mutant lines seem to be very promising.

9717
CSO: 4011/182

AUTHOR: None

ORG: None

TITLE: "New Breeds of Winter Wheat"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 6, 17 Jun 82 pp 2-4

ABSTRACT: The following new breeds of winter wheat are listed in the paper: (1) Hengshui-781, a single cross sexual hybrid, bred out by Hengshui Prefecture Research Institute of Agriculture, Hebei Province; (2) Zhengzhou-761, a triple cross bred out by Henan Provincial Academy of Agriculture and Forestry; (3) Jixian-728, a single cross bred out by Jiyuan Institute of Agricultural Sciences, Henan Province; (4) Pingyang-76176, a single cross bred out by Research Institure of Wheat, Shanxi Provincial Academy of Agricultural Sciences; (5) 605-11, a multiple cross bred out by Shanxi University of Agriculture; (6) Zhemo No 2, a multiple cross bred out by Zhejiang Provincial Academy of Agricultural Sciences; (6) Omo No 8, a single cross with Italian No 17 as the father, bred out by Research Institute of Grain Crops, Hubei Provincial Academy of Agricultural Sciences; (7) Guimo No 1, bred out by Guangxi Research Institute of Cron through hybridization selection with breeds introduced from Heilongjiang and Fujian; (8) Longqi-35, bred out by Longqi Prefecture Institute of Agriculture, Fujian Province. Properties of the above are briefly described.

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TITLE: "Inquiries Into the Technical Measures of Soybean Production in Heilongjiang Province"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 6, 17 Jun 82 pp 6-7

ABSTRACT: While soybean is not as adaptable as other crops, it also changes easily into a variety of forms under all different conditions. Although in China, aside from some high and cold areas of Qinghai-Xizang Plateau, soybean is cultivated everywhere, judging from the natural, economic, and social conditions, Heilongjiang is the most favorable for large acreage commerical production of soybean. The unit yield has been only 130-160 jin/mu for many years, however. The problems are as follows: (1) Regionally soybean does not react to nitrogen fertilizer as favorably as corn, wheat, rice, etc. The application of fast acting phosphorus fertilizer is the solution. (2) Incomplete germination of seeds due to extensive cultivation and poor soil moisture: The problem may be overcome by seeding later , using early maturing breeds, and using herbicides for more effective weed control. (3) The problem of drought and flood due to uneven distribution of rainfall may be helped by using small-seed varieties and irrigation. (4) The northernmost area of Heilongjiang is not

[continuation of NONGYE KEJI TONGXUN No 6, 1982 pp 6-7]

suitable for soybean, neither is the western saline and alkaline lands, but this problem may also be overcome if suitable breeds are selected. (6) The acreage of soybean is expanding and the condition of water and fertilizer is improving in Heilongjiang recently but soybean diseases are also becoming more serious. Sunflower encourages the spread of sclerotinia rot; therefore, where-ever soybean is the major crop, sunflower acreage should be small and scattered. This is especially essential in low and damp regions.

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ORG: Institute of Scientific and Technological Information, Chinese Academy of Agricultural Sciences

TITLE: "Prospect of Wheat Development in South China"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 6, 17 Jun 82 pp 8-9

ABSTRACT: The 3 provinces and 1 region of South China have 9 percent of the wheat acreage of China and 7.6 percent of the total wheat production. The unit yield of Guangxi is 64 jin/mu, Guangdong 49 jin, and Fujian 97 jin, mostly lower than the national average of 86 jin. Failure to improve the unit yield also causes the wheat acreage to fluctuate from year to year. Although this subtropical region has superior condition of water and heat, the crop repeating index is high and many crops are suitable for the winter. If the ratio of wheat acreage is to be enlarged to raise the living standard of the people, ways must be found to increase the unit yield. The major problems include diseases, proper fertilizer application, and breeding locally suitable high yield variaties. The paper maintains that it is not true that there is no future for wheat development in South China. The key is research to improve the level of scientific cultivation of wheat. There is a great potential in improving the unit yield of wheat in South China.

6248
CSO: 4011/156

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ORG: Both of Fujian Academy of Agricultural Sciences

TITLE: "Genetic Effects of Radiation on Rice Hybrids"

SOURCE: Fuzhou FUJIAN NONGSUEYUAN XUEBAO [JOURNAL OF THE FUJIAN ACADEMY OF AGRICULTURAL SCIENCES] in Chinese No 1, 1982 pp 25-28

TEXT OF ENGLISH ABSTRACT: The F_1 generations (M_1F_1) of different hybrid combinations in rice were radiated by Co rays of 30 kr. The radiation caused genetic effects on the different quantitative characteristics in the M_2F_2 generations.

Induced effects of the different quantitative characteristics were shown in the following two aspects:
1. Though the magnitude of mean population values of irradiated populations were not significantly different from that of unirradiated populations for most of the quantitative characteristics, the population coefficients of variation were increased and the heritabilities were also strengthened.
2. Some of the mean values of irradiation populations were significantly different from those of the control populations for quantitative characteristics and appeared to have positive effects (favorable mutation effects) or negative effects (unfavorable mutation effects).

[Continuation of FUJIAN NONGSUEYUAN XUEBAO No 1, 1982 pp 25-28]

The magnitude of induced effects of production characteristics was estimated with coefficients of variation and hereditability in the M_2F_2 generation and it is taken by the following order: number of effective ears → number of grains → percentage of seeds set → 100 grain weight.

9717
CSO: 4011/178

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TITLE: "Identification of Strains of Soybean Mosaic Virus"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 1, 1982 pp 15-20

TEXT OF ENGLISH ABSTRACT: The symptomatology, physical properties, host range, transmission and varietal reaction of six isolates of soybean virus collected from Jiangsu and Heilongjiang were studied. All of them could produce local lesions on the index plant, *Phaseolus vulgaris* L. "top crop," and could be transmitted by the peach aphid (*Myzus persicae* Sulzer), radish aphid (*Lipaphis eryzimi* Kattenback), and alfalfa aphid (*Aphis craccivoro* Koch). In soybean sap, their properties were thermal inactivation between 50~55°C or 55~60°C dilution end point between 10^{-2}~10^{-3}, longevity at room temperature (>25°C) between 24~36 hr. Electron microscopy of leaf dip preparations from soybean leaves stained negatively with PTA revealed flexuous particles. They had a narrow host range and only infected a few species of Leguminoceae. However, varietal reactions on soybean cultivars were significantly

[Continuation of ZHIWU BAOHU XUEBAO No 1, 1982 pp 15-20]

and consistently different. On this basis, they could be identified as six different strains of soybean mosaic virus (SMV). When the same strain was inoculated on different cultivars of soybean in a greenhouse, the symptom expressions differed obviously. Hence, the designation of isolates based on symptom expressions seems unreliable.

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TITLE: "Study of the Control of Leaf Rust of Wheat by RH-124 (4-n-Butyl-1, 2, 4-Triazole)"

SOURCE: Tianjin ZHIWU BAOHU XUEBAO [ACTA PHYTOPHYLACTICA SINICA] in Chinese No 1, 1982 pp 21-26

TEXT OF ENGLISH ABSTRACT: The results of greenhouse and field experiments showed that RH-124 gave excellent control against wheat leaf rust.

The winter wheat seeds treated with RH-124 at the rate of 0.03-0.035 percent by weight could avoid the harm of leaf rust before winter. In spring, when most wheat plants raised their flag leaves and started to display the leaf rust, only one spraying with 750 g per ha. of this fungicide gave more than 90 percent control. Soil application with RH-124 by irrigation also produced satisfactory results.

9717
CSO: 4011/172

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TITLE: "Studies on the Resistance of Rice Varieties to Viruses"

SOURCE: Fuzhou FUJIAN NONGXUE YUAN XUEBAO [JOURNAL OF THE FUJIAN ACADEMY OF AGRICULTURAL SCIENCE] in Chinese No 2, 1982 pp 15-18

TEXT OF ENGLISH ABSTRACT: The present report deals with the determination of the resistance of rice varieties to RTYV (RYSV), RDV, RBSV and RRSV.

1. Among the 219 varieties tested during 1973-1975, none of the tested varieties was immune to RTYV and RDV.

More than 15 varieties were considered to be highly resistant to RTYV, including Chikuaiai 3, 691, Tadukan, Longge 1 and Longge 113, etc. Thirty-seven varieties were moderately resistant, such as Zhenlong 13 and Wanxian 1, etc. Seventy-nine varieties were moderately susceptible, such as Shaaida and Lucai, etc., while 88 varieties were highly susceptible, including Zhenzuai 11 and Short White Seeder, etc.

Thirty-four varieties were highly resistant of RDV, including Tetep, Chikuaiai 3, Guba 154 and Mudgo, etc.; and 39 varieties were moderately resistant, such as

[Continuation of FUJIAN NONGXUE YUAN XUEBAO No 2, 1982 pp 15-18]

Malaihong, Nongshi 4 and Zhenlong 13, etc. Fifty-one varieties were moderately susceptible, such as Zhenshan 97 and Chaiyeching 8, etc.; and 95 varieties were highly susceptible, including IR 24 and IR 24 x TN-1, etc.

2. Among the 16 varieties tested during 1978 and 1981, none of them was immune to RBSV. The highly resistant varieties were Chikuaiai 3 and Baotaiai; moderately resistant varieties were Cuba 154, Zhenlong 13, Zhenlong 410 and Nongshi 4; and moderately susceptible varieties were Longge 16, IR 24, V 41 and V 20, while the others were all highly susceptible.

3. Among the 32 varieties tested during 1980-1981, none of them was immune to RRSV. The highly resistant varieties were Chikuaiai 3, Shannung 3, Shannung 8 and Chikuaiai-Xiuan; the moderately resistant varieties were IR 30-Xiuan, Baotaiai, Fengaizao A x DT Ai; while moderately susceptible varieties were IR 2061-427-1-17-7-5, IR 29, IR 30 and IR 36, etc. The highly susceptible varieties were Puichao 2, IR 24, Siyou 4 and Shanyou 6.

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TITLE: "Studies on the Root Development of Hybrid Rice"

SOURCE: Fuzhou FUJIAN NONGXUE YUAN XUEBAO [JOURNAL OF THE FUJIAN ACADEMY OF AGRICULTURAL SCIENCE] in Chinese No 2, 1982 pp 19-27

TEXT OF ENGLISH ABSTRACT: Hybrid rice plants (*Oryza sativa* L.), hybrids "San-you 2" and "Se-you 2" were used as testing materials, and cultivars "Hong-410," "Da-jia-huo" and "San-bang-70-luo" were used as controls in this study. They were grown both in pots and field plots in 1978-1980. Treatments were carried out during the periods of the 2, 4, 6, 8, 10, 12, 14 and 16 leaf stages, milk stage, dough stage and maturation stage. At each stage the formation of superficial roots, bleeding sap of stem, volume and dry weight of the roots and potency of rooting, etc., were measured. The results obtained are briefly described as follows:

1. The diameter, volume and dry weight of the roots (the density of superficial roots) of the hybrids "San-you 2" and "Se-you 2" were larger than those of the rice cultivars "Hong 410" and "Da-jia-huo," but the diameter and dry weight of the roots were less than those of the cultivar "San-bang-70-luo" with respect to the formation of lateral roots. Visual observations showed that "San-you 2," "Se-you 2" and "San-bang-70-luo" branched up to the fifth order, while "Hong-410" and "Sai-zai-ho" branched up only to the tertiary.

[Continuation of FUJIAN NONGXUE YUAN XUEBAO No 2, 1982 pp 19-27]

2. Both hybrids "San-you 2" and "Se-you 2" showed the maximum weight of roots, the maximum power of sap bleeding and the maximum potency of rooting during the dough stage, and 14 leaf-stage respectively. However, the maximum development of rooting per day was reached at about the time of the highest tillering activity. After that the climax of sap bleeding per day was reached, and at the same time an increase of tillers continued up to the greatest tiller development. Then some of the tillers died, making the total number of tillers smaller. The dry weight of roots increased up to the boot stage. However, sap bleeding per day occurred in the dough stage as the secondary summit.

3. When roots were cut at the 4, 6 and 8 leaf stages, the number of tillers was reduced with the decrease in the number of panicles. Kernels per panicle and filled grains decreased when the root was cut at the 12 leaf stage. Furthermore, the rate of filled grains was much less than that of the control when the roots were at the 16 leaf stage.

4. Roots of multiple tiller seedlings were better developed than those of multiple seedlings per hill.

Irrigated field plots with a water layer at the early growth stage and maintenance of wetness thereafter induced active growth of rice roots.

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TITLE: "The Application of Remote Sensing Technology to Soil Surveys. II: MSS Image Interpretation of Soils Division in Jinjiang Region of Fujian Province"

SOURCE: Fuzhou FUJIAN NONGXUE YUAN XUEBAO [JOURNAL OF THE FUJIAN ACADEMY OF AGRICULTURAL SCIENCE] in Chinese No 2, 1982 pp 39-51

TEXT OF ENGLISH ABSTRACT: Jiajiang Region is situated on the southeastern coast of Fujian Province at the longitude between 117°30'-119°00' E, latitude 24°30'-25°55' N. It covers a space of over 10,000 sq km.

Jinjiang's climate is considered subtropical marine with seasonal wind. The mean annual temperature is about 20°C, and the mean annual precipitation is about 1,200 mm. From May to November, known as the typhoon season, the rain is accompanied by violent whirlwinds, and this accounts for 30 percent of the total rainfall. From October to January is the dry season. The landform elevation is higher in the northwest and lower in the southeast. The hills and plains are distributed in the southeast. They belong to the Quanzhou plain and the Jinjiang-Huian hill region, and are the base of food and economic crop production.

[Continuation of FUJIAN NONGXUE YUAN XUEBAO No 2, 1982 pp 39-51]

In accordance with the MSS image interpretation of soils, air photograph and actual ground investigation of the soils, the soil associations distributed in the types of various landforms are as follows:

Type of landform	Soil associations		
	dominant (50%)	associated (20-50%)	inclusions (20%)
A. Quanzhou seashore plain			
1. deltaic plain	W_1-3a	S-3a	
2. old deltaic plain	L_t-3b	W_1-3a	W_g-3a
3. rock depositional plain	S_{ha}-3a	S_{ti}-3a	
4. tide island lowland	A_{se}-1a		
5. sea terrace (shallow dissected-platform)	L_t-3b	L_{fe}-3b	W_p-3a
B. Hill (300-500 m)			
1. lost hill of old island	L_{fe}-1b	R_o-1b	
2. rocky hill	R_o-1b	L_t-1b	

[Continuation of FUJIAN NONGXUE YUAN XUEBAO No 2, 1982 pp 39-51]

C. Low mountain (500-1000 M)			
1. mid-dissected	R_t-3c	R_y-3c	W_g-3a
2. shallow dissected	R_t-3b	W_g-3a	W_1-3a
3. valley basin	W_1-1a	R_t-2b	
D. Midmountain (>1000 M)			
1. strong dissected	Y_m-1c		P_m-1a
2. mid-dissected	Y_m-2c	W_g-2a	
3. shallow dissected	Y_m-2b		W_p-1b

Illustrations of symbols

(1) Example of symbol: $\dfrac{Y_m}{\text{Soil subgroup}}\quad \dfrac{2}{\text{Texture}}\quad \dfrac{b}{\text{Surface feature}}$

(2) Texture:
1--Coarse grain (includes sand and loamy sand)
2--Mid-grain (includes loam and clay loam)
3--Fine grain (includes clay)

[Continuation of FUJIAN NONGXUE YUAN XUEBAO No 2, 1982 pp 39-51]

(3) Surface feature:
a--Plain and lowland: Slope angle <5°, skewed rate <8 percent
b--Wave formland: Slope angle 5-20, skewed rate 9-30 percent
c--Mountain: Slope angle >20°, skewed rate >30 percent.

(4) Soils: L_{al}--Allic lateritic red earth; L_{fe}--Ferr lateritic red earth; L_t--Lateritic red earth; R_t--Red soil; R_y--Yellow red soil; Y_m--Mountain yellow earth; P_m--Mountain peat soil; P_p--peat soil; W_p--Pereogenic paddy soil; W_1--Periodically water logged paddy soil; W_g--Glayed paddy soil; A_{al}--Alluvial; A_{so}--Shore deposit; S_{sa}--Saline soil; S_{re}--residual; S_{ti}--Tidal flat; R_o--Rocky soil.

9717
CSO: 4011/187

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TITLE: "On the Classification of Rice Growing Region of Fujian Province"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 3, 10 Jun 82 pp 13-16, 23

ABSTRACT: Fujian Province is obviously divided latitudinally, longitudinally, and vertically. The rice cropping systems and the rice breeds vary a great deal from area to area within the province. This paper explains that a rice cropping area is composed of natural as well as social factors, with heat energy the leading factor. On the basis of mainly the data of the Fujian Provincial Bureau of Meteorology, the paper divided the rice growing region of the province into the following areas: (1) The dual crop late ripening Xian rice area of the southern plain and hills; (2) The medium and early ripening continuous cropping Xian rice area of the central plain and hills; (3) The dual crop medium ripening Xian rice area of the northwestern and northeastern hills; (4) The single and dual crop early and medium ripening Xian and Geng rice area of the northwestern low mountains; (5) The single crop rice area of the high mountains. Breeds of the proper ripening time, the suitable seeding and transplanting time, and the cropping system should be decided upon only after a locality is correctly assigned to one of the above rice growing areas if the yield is to be high and stable.

6248
CSO: 4011/157

AUTHOR: ZHOU Zhaoji [0719 5128 1015]

ORG: Northwest Teachers College

TITLE: "China's Traditional Methods of Seed Treatment"

SOURCE: Beijing ZHIWU ZAZHI [JOURNAL OF BOTANY] in Chinese No 3, May 82 pp 35-37

ABSTRACT: Seed treatment to promote germination and growth, to reduce damage from diseases and pests, to induce early maturity, or to cause favorable mutation is a modern, scientific, and common technique but many seed treatment measures being applied in present day China, including sunning, soaking in cold water or warm liquid mixture, variable temperature treatment, mixing seeds with chemicals, soaking with trace elements or growth stimulating agents, vernalization, and ultrasonic wave and radiation treatment are in fact developed on a foundation of China's traditional techniques. Methods of mixing seeds with animal manure and/or herbal drugs, sunning and/or soaking seeds, stratification treatment in sand or a pit, mechanical rubbing, and mixing seeds with herbal pesticides described in old Chinese literatures from as early as the Zhou Dynasty to as recent as the Ming Dynasty are briefly introduced in the paper.

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